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ABSTRACT

Findings are reported of a workshop held to identify the priority needs of postsecondary occupational education in the 1980s and to develop a list of research and development topics based on those needs. Changes and trends identified by the panel are listed under six societal force areas: demographics, technological advances, the economy, the work place, energy, and value shifts. Possible positive responses to these changes, taking into account perceived gaps between the state-of-the-art and the kinds of institutional responses needed are given in a four-page matrix. One axis depicts seven major areas of institutional response (personnel development, program development, support services, linkages, planning/assessment, delivery systems, and administrative services). On the other axis are three critical areas of need: energy, diverse populations, and technological advances. Research and development needs are then listed for the seven areas of institutional response. The eight criteria for selecting the advisory panel (workshop participants) to assure diversity of representation and the names and addresses of the ten leaders selected are given. (MEK)

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NEEDS-SENSING WORKSHOP

POSTSECONDARY OCCUPATIONAL EDUCATION PROJECT

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NATIONAL CENTER FOR RESEARCH
IN VOCATIONAL EDUCATION
OHIO STATE UNIVERSITY
COLUMBUS, OHIO

APRIL 15-17, 1980

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NEEDS-SENSING WORKSHOP

The purpose of the Needs-Sensing Workshop was to identify the priority needs of postsecondary occupational education and then develop a list of research and development topics based on those needs. One or two of those topics would then be selected to be addressed in the resource handbook to be developed in the project.

Toward this end, ten persons were to be selected to participate in the workshop and provide the outcomes. Since the results would be highly dependent upon the persons selected, the criteria for their selection was carefully established. It was important that the participants be recognized leaders knowledgeable of two-year colleges' needs on a national basis. Geographical diversity and representation from different size and kinds of colleges, as well as persons in different roles, were necessary to provide a full range of perceptions. Leadership from the major organizations serving postsecondary were to be represented, and the ten participants must include women and minorities. The full list of criteria and the list of participants are presented in Figures 1 and 2.

FIGURE 1

CRITERIA FOR SELECTING TECHNICAL ADVISORY PANEL
POSTSECONDARY OCCUPATIONAL EDUCATION PROJECT

1. Must be knowledgeable of two-year colleges' needs/problems on a national basis.

2. Must have provided recognized leadership in postsecondary vocational education.

3. Should be selected from diverse sections of the country.

4. Should include large city/county systems, suburban community/technical colleges, and small rural colleges.

5. Should represent leadership or staff from the following organizations:

    a. American Association of Community and Junior Colleges
    b. Council on Occupational Education
    c. American Vocational Association Technical Education Division
    d. American Technical Education Association

6. Should include someone with state level responsibilities for two-year college.

7. Should include someone from a university Higher Education Department who has responsibility for preparing persons to work in the two-year college.

8. Should represent minorities and women.

FIGURE 2

Technical Advisory Panel
Postsecondary Occupational Education Project

Dr. John Grede, Vice Chancellor
for Career and Manpower Programs
City Colleges of Chicago
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Dr. Warren Groff, Vice President for Academic Affairs
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Ms. Constance D. Sutton, Vice President for Program AACJC
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Dr. Fred Wellman, Executive Director
Illinois Community College Board
3085 Stevenson Drive
Springfield, IL 62703

Mr. Charles O. Whitehead, President
State Technical Institute at Memphis
Memphis, TN 38134

The objectives of the workshop and the workshop outcomes are presented below, followed by the workshop agenda in Figure 3.

Workshop Objectives

1. To identify societal forces impacting on the two-year college.

2. To identify desired institutional response to these societal changes.

3. To identify major problems/needs in postsecondary vocational education by noting the gaps between the present state and the desired state.

4. Within the identified problem areas, to focus in on topics of need for research and development.

5. List the high priority topics from which one or two will be chosen to be addressed in the resource handbook to be developed in this project.

Workshop Outcomes

Based upon the objectives of the workshop, the following are outcomes of the workshop:

1. A list of societal forces impacting on the two-year college.

2. A list of good institutional responses to these societal changes.

3. Identification of priority needs of postsecondary occupational education.

4. A list of research and development topics growing out of the identified needs.

FIGURE 3

NEEDS-SENSING WORKSHOP

POSTSECONDARY OCCUPATIONAL EDUCATION PROJECT

Agenda

Tuesday, April 15, 1980

8:15	Transportation to National Center (from Stouffer's lobby)
8:30	Coffee and Donuts
8:45	Welcome and Introductions
9:30	Overview of Workshop
10:00	Full Group Work Session *Identifying Societal Forces Impacting on the Two-Year College*
11:30	Break for lunch
12:00	Lunch at OSU Golf Course
1:30	Full Group Work Session *(Continue to identify societal changes impacting on postsecondary education)*
2:30	Small Group Work Session *Identifying Good Institutional Responses to these Changes*
4:30	Adjourn
6:00	Transportation to Dinner
6:30	Dinner at One Nation

Wednesday, April 16, 1980

8:15	Transportation to National Center
8:30	Full Group Session *Reports from Small Groups (Consolidate findings)*
9:30	Small Group Work Session *Look at the Gaps Between Where We Are and Where We Ought to Be to Identify Needs*

FIGURE 3 (Contd.)

Wednesday, April 16, 1980 (Contd.)

11:30	Break for Lunch
12:00	Lunch at Ohio Union
1:30	Small Group Work Session *Continue to Identify Needs*
2:30	Full Group Session *Reports from Small Groups on Identified Needs* *Prioritize Needs*
4:30	Adjourn
6:00	Pick up at Stouffers for dinner-theatre at Faculty Club

Thursday, April 17, 1980

8:15	Transportation to National Center
8:30	Small Group Work Sessions *Identifying Research and Development Topics* *from the Priority Needs*
12:00	Lunch - Catered
1:00	Full Group Session *Finalize List of Research and Development Topics*
2:30	Adjourn

Societal Forces Impacting on the Two-Year College

Prior to the workshop the participants were given the following material to read:

Watson, Norman E. The Community College in the 1980's: Promises and Perils. Paper presented at the 60th AACJC Annual Convention in San Francisco, April 1, 1980.

VanAusdle, Steven L. "Planning for the Next Decade." Comprehensive Institutional Planning in Two-Year Colleges: An Overview and Conceptual Framework, Columbus: National Center for Research in Vocational Education, The Ohio State University, 1979.

"Jobs and People in the Eighties." The Futurist, April 1980.

The process involved work sessions of the full group of ten participants as well as two small groups of five each. The full group identified societal forces impacting on the two-year college, using the following six areas as a framework for identification:

1. Demographics
2. Technological Advances
3. Economy
4. The Workplace
5. Energy
6. Value Shifts

With the framework as a basis for discussion, the technical panel addressed each major force and identified changes and trends occurring or predicted to occur within that force which would impact on two-year colleges during the 1980's.

Figure 4 contains a summary of each of the six societal force areas and the changes and trends identified by the technical panel that would affect two-year colleges in the next decade.

FIGURE 4

Identification of Societal Forces Impacting on the Two-Year College

Demographics. Demographic changes and trends affecting two-year colleges centered around a more diverse composition of the population with a shift in the representation of age groups. Specific changes and trends included the following:

1. The population of the future will be more diverse with increasing numbers of minorities and increasing numbers of refugees and other international groups.

2. A major age shift in the population will reflect (a) decreasing numbers of persons in the 18-23 year old age group, and (b) increasing numbers of persons in the 25-45 year old age group. This age shift will affect school enrollments as well as creating an older work force.

3. The population will become more mobile in nature.

4. The changing work force will reflect increasing numbers of women, older workers and higher unemployment.

5. High illiteracy will continue to plague the population, and two-year colleges will have to face the question of whether or not they should serve youth more extensively.

6. The nature of business and industry will change which will cause persons to experience several job changes in a lifetime.

7. There will be increasing numbers of single parent/person households.

8. The practice of deinstitutionalization will cause greater numbers of special individuals such as the incarcerated and the mentally retarded to be functioning in society.

FIGURE 4 (Contd.)

Technological Advances. Technological advances will be great in number and varied in nature. Technological advances will affect the workplace and the educational system as well as the home. Changes and trends resulting from technological advances include the following:

1. There is a trend toward more human resource development. Some training needs affecting human resource development include technology transfer, the use of robots, computer literacy and the general need for helping individuals cope with technological changes.

2. There will be an increasing concern for the utilization of appropriate technology.

3. There will be an increase in the use of telecommunications.

4. The number of cottage and home-based industries will increase.

5. Small businesses will need to be able to use technology appropriate for their needs and size.

6. Education will be affected by technological advances in several ways, for example: (a) new instructional media, (b) electronic home-based education as well as other educational delivery systems, (c) insitutional improvement in the use of technology and technology assessment.

7. There will be an increasing concern for identifying research and development needs.

FIGURE 4 (Contd.)

Economy. The economy in the next decade will continue to be complex and unpredictable. Inflation and unemployment will continue to cause concern. Some of the major changes and trends in the economy identified include the following:

1. Unemployment and underemployment will increase as worker productivity continues to decline.

2. Inflation and recession will continue to be problems as reflected by (a) the declining tax dollar (b) the decreasing availability of funds, (c) the decreasing individual spending of dollars for education, and (d) the difficulty in receiving student loans.

3. Communities will need to react to the relocation, expansion and retention of business and industry.

4. There will continue to be a shortage of skilled workers and competition for acquiring these workers will be intense.

5. There will be an overall tightening of funds for education and social services.

6. A shift from a production to service economy will affect jobs and job training.

7. International effects will be felt as there will be more importing of foreign industries, "planted" work forces, and a growing foreign ownership of business, industry, and agriculture.

FIGURE 4 (Contd.)

The Workplace. Changes in the workplace will be affected by the needs and wants of business and industry and by the increasingly different needs and wants of workers. Changes in worker attitudes and needs will greatly impinge on the workplace. Changes and trends identified include the following:

1. There will be an increasing concern for the ability of industry to handle new technology as well as provide their own training.

2. Increasing and changing governmental regulations will continue to impact on the workplace.

3. There will be a trend toward increasing unionism.

4. The need for manpower data in regard to (a) oversupply, (b) undersupply and (c) maldistribution of workers will continue.

5. Declining worker productivity and output will persist.

6. The concern for the quality of worklife will continue as worker needs in regard to the following are addressed:

   (a) underutilization
   (b) dissatisfaction
   (c) participatory management
   (d) re-entry/retraining availability
   (e) midcareer changes
   (f) individual job choice as affected by monetary rewards
   (g) increasing desire for fringe benefits
   (h) alternative work schedules such as job sharing, and part-time jobs as affected by women in the work force and changes in the retirement laws

7. There will be increasing numbers of women and men in nontraditional jobs.

FIGURE 4 (Contd.)

Energy. The energy problem will continue and will cause changes to take place in the workplace as well as in our personal lives. Specific changes and trends include:

1. Energy will increasingly be viewed as a political, international issue.

2. Energy changes will create new technologies as well as more appropriate architectural structures.

3. Energy changes will cause a need for upgrading and updating in jobs.

4. Changes in life styles and attitudes will take place due to the energy problem.

5. Consumers will be faced with increasing utility costs.

6. The energy problem will affect education in general ways. Some of which include: (a) programming, methodology and scheduling changes, (b) new technological curricula (c) non-traditional educational delivery systems and (d) the cost of commuting.

7. The energy problem will create a need to identify meaningful research and development needs.

FIGURE 4 (Contd.)

Value Shifts. Individual and societal values will alter as changes take place in the family, work, education and the environment. Changes and trends identified include the following:

1. The family structure will change as single parent/person households increase.

2. The changing roles of women and men will continue to cause value shifts.

3. Worker values will be modified based on the following changes and needs:

   (a) greater worker participation in institutional life
   (b) worker changes in career aspirations and job satisfaction
   (c) persons placing work secondary in importance as a part of one's life
   (d) changes in work time to fit worker life styles
   (e) increasing "moonlighting" and part-time jobs for workers

4. Education will be affected by the following:

   (a) conflicting societal expectations of the role and value of education
   (b) the changing roles and responsibilities of two-and four-year colleges
   (c) the need for management/supervisory retraining to work with employees having different value systems
   (d) the belief and need for lifelong learning

5. Society will continue to search for ways to conserve resources and care for the environment.

Needs Identification

In small groups, the workshop members discussed good institutional responses to these changes in society. This made clear the difference between the current state of the art and the kinds of institutional responses needed. From these perceived gaps the participants were able to focus in on priority needs.

As the identification process progressed, the identified needs fell into a matrix showing on one axis major areas of institutional response (where the needs were within the insititution), and on the other axis three critical areas of need (energy, diverse populations, and technological advances). The listings therein identify specific priority needs. This needs matrix is found in Figure 5.

From these identified needs the participants developed a list of important research and development topics for postsecondary occupational education. (See Figure 6.)

PRIORITY POSTSECONDARY OCCUPATIONAL EDUCATION NEEDS

	ENERGY	SERVING DIVERSE POPULATIONS	TECHNOLOGICAL ADVANCES
1. STAFF/PERSONNEL DEVELOPMENT	a. increase knowledge and awareness b. train faculty to teach programs c. develop competencies for energy conservation	a. develop awareness and sensitivity of handicapped, disadvantaged, minorities, aged, adult, women, functional illiterate, incarcerated, mobile, ethnic, unemployed youth, international populations b. develop competencies for serving diverse populations	a. update on changes in business and industry b. develop staff for new technologies c. develop competencies for using new instructional technologies
2. CURRICULUM/ PROGRAM DEVELOPMENT	a. develop new courses and programs b. integrate concepts in current programs c. evaluate programs	a. provide special programs b. modify programs c. provide basic skills programs d. evaluate programs	a. provide new courses b. integrate concepts in current programs c. evaluate programs
3. SUPPORT SERVICES	a. promote energy conservation b. recruit students c. provide job development and placement	a. provide career life planning, career exploration, etc. b. provide financial aid for all types of students c. provide job placement services d. provide outreach services	a. provide for studying the recruiting of new students b. provide job development and job placement

FIGURE 5

PRIORITY POSTSECONDARY OCCUPATIONAL EDUCATION NEEDS (cont)

	ENERGY	SERVING DIVERSE POPULATIONS	TECHNOLOGICAL ADVANCES
3. SUPPORT SERVICES (continued)		e. provide child care f. provide advising/counseling for all types of students g. provide health services h. provide information on career related organizations i. provide information on leisure related organizations j. provide leadership opportunities k. provide flexibility in delivering services l. provide admissions/registration flexibility m. provide assistance in meeting survival needs (food, books, library, counseling, etc.) for all hours, (such as evenings, weekends) n. provide tutors - learning resource centers o. provide information on marketing/recruitment	

FIGURE 5 (Contd.)

PRIORITY POSTSECONDARY OCCUPATIONAL EDUCATION NEEDS (cont)

	ENERGY	SERVING DIVERSE POPULATIONS	TECHNOLOGICAL ADVANCES
4. LINKAGES/ ARTICULATION	a. develop active advisory committees	a. develop active advisory committees	a. develop active advisory committees
	b. articulate on competencies and curriculum in cooperation with business (large and small), industry, labor, social agencies and community based organizations, secondary schools, professional schools, other postsecondary education institutions, military, and government (local, state, federal)	b. articulate on competencies and curriculum in cooperation with business (large and small), industry, labor, social agencies and community based organizations, secondary schools, professional schools, other postsecondary education institutions, military, and government (local, state, federal)	b. articulate on competencies and curriculum in cooperation with business (large and small), industry, labor, social agencies and community based organizations, secondary schools, professional schools, other postsecondary education institutions, military, and government (local, state, federal)
	c. utilize professional organizations	c. utilize professional organizations	c. utilize professional organizations
	d. utilize community resources	d. utilize community resources	d. utilize community resources
5. PLANNING/ ASSESSMENT	a. gather and analyze data	a. gather and analyze data	a. gather and analyze data
	b. clarify/revise mission, goals	b. clarify/revise mission, goals	b. clarify/revise mission, goals
	c. provide for effective decision making and future planning	c. provide for effective decision making and future planning	c. provide for effective decision making and future planning
	d. evaluate	d. evaluate	d. evaluate

FIGURE 5 (Contd.)

PRIORITY POSTSECONDARY OCCUPATIONAL EDUCATION NEEDS (cont)

	ENERGY	SERVING DIVERSE POPULATIONS	TECHNOLOGICAL ADVANCES
6. INSTRUCTIONAL TECHNOLOGY/ DELIVERY SYSTEMS	a. develop competency-based education	a. develop competency-based education	a. develop competency-based education
	b. provide for mastery learning (nontime based)	b. provide for mastery learning (nontime based)	b. provide for mastery learning (nontime based)
	c. develop nonpunitive student evaluation	c. develop nonpunitive student evaluation	c. develop nonpunitive student evaluation
	d. provide credit for non-traditional learning	d. provide credit for non-traditional learning	d. provide credit for non-traditional learning
	e. develop uniform credit for adult occupational education	e. develop uniform credit for adult occupational education	e. develop uniform credit for adult occupational education
	f. utilize telecommunications	f. utilize telecommunications	f. utilize telecommunications
	g. provide for computer-assisted instruction	g. provide for computer-assisted instruction	g. provide for computer-assisted instruction
	h. utilize off-campus community locations	h. utilize off-campus community locations	h. utilize off-campus community locations
7. FISCAL/ ADMINISTRATIVE SERVICES	a. revise and develop new policies and procedures	a. revise and develop new policies and procedures	a. revise and develop new policies and procedures
	b. study cost effectiveness	b. study cost effectiveness	b. study cost effectiveness
	c. reallocate resources	c. reallocate resources	c. reallocate resources
	d. review leadership styles	d. review leadership styles	d. review leadership styles
		e. study legal implications	e. study legal implications

FIGURE 5 (Contd.)

FIGURE 6

RESEARCH AND DEVELOPMENT TOPICS FOR POSTSECONDARY OCCUPATIONAL EDUCATION

Staff/Personnel Development

1. Models of human resource development within postsecondary occupational education
2. Models of adult development stages and effective instructional strategies for meeting needs of adults
3. Models of developing teacher competency for the use of new educational technology
4. Research and models to develop awareness, sensitivity, and instructional strategies for staff working with diverse populations

Curriculum/Program Development

1. Research through (a) state of the art of programs and effectiveness, (b) methodologies for program development, (c) models for the identification of competencies, and (d) models of effective programs and institutional delivery systems for meeting the needs of special populations, which include the following:

adults	incarcerated
aged	international populations
disadvantaged	minorities
ethnic groups	mobile
functional illiterate	unemployed youth and adults
handicapped	women

2. Research and models for integrating basic skills into existing and new vocational programs
3. Research and models for integrating energy concepts into existing curricula
4. Research and models for new curricula for alternative energy systems
5. Research and models for computer literacy
6. Develop a clearinghouse of information on what has been done to date in energy education
7. Develop a clearinghouse on postsecondary education research
8. Develop a clearinghouse on postsecondary curriculums

FIGURE 6 (Contd.)

Support Services

1. Research and models for marketing strategies to recruit students for unique or new programs or courses

2. Research and models for interfacing existing agencies' support services (community referral and social service agencies) necessary to enable diverse populations to achieve their educational goals

Linkages/Articulation

1. Research, models, and state of the art studies dealing with linkages and interfacing of education with business, industry, labor, and government

2. Research and models for improving vocational postsecondary institutions interfacing with business and industry

3. Research and models for vertical and horizontal articulation among the following:

    a. secondary institutions
    b. postsecondary institutions
    c. colleges and universities
    d. proprietory schools
    e. business, industry, and labor
    f. government training programs
    g. CETA

4. Descriptions of initiatives by industry toward standards which have implications for educational programs and certification

Planning/Assessment

1. Models of data gathering and analysis (internal and external)

2. Models of trend analysis and impact analysis

3. Models which describe the derivation of mission and institutional goals

4. Models for determining institutional impact on the community

FIGURE 6 (Contd.)

Instructional Technology Delivery Systems

1. Research and models on effectiveness of nontraditional strategies, such as:

    a. competency-based education, including individualized instruction and open entry - open exit
    b. mastery learning (nontime based)
    c. nonpunitive student evaluation
    d. credit for nontraditional learning
    e. uniform credit system for adult occupational education
    f. telecommunications utilization
    g. computer-assisted instruction
    h. off-campus community locations for instruction

Fiscal/Administrative Services

1. Research and models for coping with diminishing resources for the acquisition of (a) facilities, (b) equipment, (c) materials, and (d) personnel